

AVIAN INFLUENZA (BIRD FLU)

Questions and Answers

March 2006

Q. What is Avian Influenza (AI)?

- A.** Avian influenza (AI), commonly called bird flu, is a disease found among poultry. AI viruses can infect chickens, turkeys, pheasants, quail, ducks, geese and guinea fowl, as well as a wide variety of other birds, including migratory waterfowl. Each year there is a flu season for birds just as there is for humans and, as with people, some forms of the flu are worse than others.

AI viruses can be classified into low pathogenicity and high pathogenicity forms based on the severity of the illness they cause in poultry. Most AI strains are classified as low pathogenicity AI (LPAI) and cause no or few clinical signs in infected birds. In contrast, high pathogenicity AI (HPAI) causes a severe and extremely contagious illness and death among infected birds.

Q. How is the disease spread?

- A.** AI is primarily spread by direct contact between healthy birds and infected birds, and through indirect contact with contaminated equipment and materials. The virus is excreted through the feces of infected birds and through secretions from the nose, mouth and eyes.

Contact with infected fecal material is the most common method of bird-to-bird transmission. Wild birds can introduce AI into domestic poultry flocks through fecal contamination of the environment. Within a poultry house, transfer of the AI virus between birds can also occur via airborne particulates. The spread of AI between poultry premises almost always follows the movement of contaminated equipment or people carrying the virus on their shoes, clothes or hands. AI can also be found on the outer surfaces of eggshells from infected birds and may spread to other flocks when unwashed eggs are transferred. Airborne transmission of virus from farm to farm is highly unlikely under normal circumstances.

On a limited basis, HPAI can be spread from birds to people as a result of extensive direct contact with infected birds. Broad concerns about public health relate to the potential for the virus to mutate, or change into a form that could spread from person to person. The U.S. Department of Health and Human Services and the California Department of Health Services are working to ensure public health is optimally protected. More information is available at <http://www.pandemicflu.gov>.

Q. What symptoms do birds with AI demonstrate?

- A.** LPAI symptoms are typically mild. Decreased food consumption, respiratory signs (coughing and sneezing) and a decrease in egg production might demonstrate the presence of the disease. Birds that are affected with HPAI have a greater level of sickness and could exhibit one or more of the following clinical signs: sudden death; lack of energy and appetite; decreased egg production; soft-shelled or misshapen eggs; swelling; purple discoloration; nasal discharge; coughing; sneezing; lack of coordination and diarrhea.

Q. What should producers do if their birds appear to have signs of AI?

- A.** If birds exhibit clinical signs of HPAI, or may have been exposed to birds with the disease, producers or bird owners should immediately notify their local veterinarian. If a local veterinary practitioner is not available, they should call state or federal animal health experts by either calling the California Department of Food and Agriculture's (CDFA) Avian Health Group or local Animal Health Branch District Office (numbers are listed at the end of this document).

Q. Is it possible for an LPAI strain to become highly pathogenic?

- A. Some low pathogenic subtypes have the capacity to mutate into more virulent strains. While LPAI is considered lower risk, low pathogenic strains of the virus - the H5 and H7 strains - can mutate to highly pathogenic forms.

Q. Besides HPAI and LPAI, is AI divided into other groupings?

- A. Yes, there are 144 different characterizations of the virus based on two groups of proteins found on the surface of the virus. One group is the hemagglutinin proteins (H), of which there are 16 different types (H1-H16); the other group is the neuraminidase proteins (N), of which there are nine different types (N1-N9). The virus detected in several Asian and European countries is an H5N1 type of highly pathogenic (HPAI) virus.

Q. Is AI a reportable disease?

- A. Yes, California law requires that veterinarians, laboratories, bird owners and any person who has knowledge about infected birds, report AI or suspected AI to CDFA (numbers are listed at the end of this document).

Q. Does AI threaten human health?

- A. LPAI poses no known serious threat to human health, however, some strains of HPAI viruses can be infectious to people. Since December 2003, a growing number of Asian, European and African countries have reported outbreaks of HPAI in chickens and ducks. Humans also have been affected, but only those with very close, direct contact with infected birds. The rapid spread of HPAI in 2004, 2005 and 2006 is historically unprecedented and of growing concern for human health as well as for animal health.

Q. Does proper food handling prevent AI?

- A. The USDA Food Safety and Inspection Service (FSIS) is working to educate the public about safe food handling practices in response to numerous questions from the public about the human risk associated with AI. There is no evidence that LPAI can be transmitted to people by eating poultry. If HPAI were to enter the U.S., ongoing surveillance and mandatory inspections would prevent diseased poultry from entering the food chain.

Proper handling and cooking of poultry and eggs also provides protection against this virus, as it does other viruses and bacteria. Safe food handling and preparation is important at all times. Consumers are reminded to practice safe food handling and preparation every day:

- Wash hands before and after handling food.
- Prevent cross-contamination by keeping raw meat, poultry, fish, and their juices away from other foods.
- Wash countertops, knives, cutting boards, and other utensils with hot soapy water to prevent cross-contamination to other foods.
- Sanitize cutting boards by using a solution of 1-teaspoon chlorine bleach in 1 quart of water.
- Use a food thermometer to ensure food has reached the proper temperature. Cook whole birds to 180 °F; breasts to 170 °F; drumsticks, thighs and wings to 180 °F; and maintain a minimum oven temperature of 325 °F. More information is located at <http://www.fsis.usda.gov/fact%5Fsheets>
- FDA discourages the consumption of eggs that have not been adequately cooked. More information is available at <http://www.foodsafety.gov>

Poultry and egg products imported to the U.S. must meet all safety standards applied to foods produced in the U.S. No poultry or eggs from countries with confirmed cases of H5N1 HPAI can be imported into the U.S.

Q. Does HPAI currently exist in the U.S.? Has it ever occurred in this country?

- A.** Incidents of LPAI are occasionally detected in domestic poultry flocks. LPAI does not pose a serious threat to human health. There is no evidence that HPAI currently exists in the U.S. HPAI has never been detected in California; however, historically there have been three HPAI outbreaks in poultry in this country--in 1924, 1983 and 2004. No significant human illness resulted from these outbreaks.

The 1924 H7 HPAI outbreak was detected in, and contained to, East Coast live bird markets. The 1983-84 H5N2 HPAI bird outbreak resulted in the destruction of approximately 17 million chickens, turkeys, and guinea fowl in the northeastern U.S. to contain and eradicate the disease. In 2004, USDA confirmed an H5N2 HPAI outbreak in chickens in the southern U.S. The disease was quickly eradicated thanks to close coordination and cooperation between USDA, state, local, and industry leaders. Because of the quick response, the disease was limited to one flock.

In order to be prepared should AI enter this country, government agencies and potentially affected businesses and bird owners are working together to refine response plans. Both CDFA and USDA maintain personnel that are trained to diagnose, control the spread and eradicate animal diseases like AI.

Q. What kind of test is used to diagnose AI in birds?

- A.** Samples are usually taken by swabbing the mucus that coats the throat of live birds. This procedure does not harm the birds. With wild birds, a fecal sample may be taken instead. These samples go into sealed tubes and are taken to USDA-approved laboratories where a polymerase chain reaction (PCR) test is run. In California, the USDA-approved laboratory is the California Animal Health and Food Safety Laboratory system, which has five facilities: Davis (Central), Fresno, San Bernardino, Tulare and Turlock. A PCR test is a rapid method of identifying the virus, typically producing results within three hours. If a sample from an area where AI has not been previously detected tests positive on a rapid test, an additional confirmatory test is performed. This test involves growing the sample in embryonated chicken eggs, which then provides the material to allow detailed identification of the strain of virus and whether it is HPAI or LPAI. This test can take 3-5 days to produce results.

Q. What is USDA doing to prevent the introduction of HPAI into the U.S.?

- A.** USDA recognizes that HPAI poses a significant threat to animal health and has the potential to threaten human health. Accordingly, USDA has safeguards in place to protect against the introduction of HPAI into the U.S. USDA maintains trade restrictions on the importation of poultry and poultry products from countries currently affected by H5N1 HPAI. USDA also works closely with international organizations like the World Organisation for Animal Health (OIE), the United Nations' Food and Agriculture Organization (FAO), and World Health Organization (WHO) to assist HPAI-affected countries and other neighboring Asian-Pacific countries with disease prevention, management, and eradication activities. By helping these countries prepare for, manage, or eradicate HPAI (H5N1) outbreaks, USDA can reduce the risk of the disease spreading overseas into the U.S.

Q. What are USDA and CDFA doing to monitor the U.S. for AI in domestic birds?

- A.** USDA, CDFA, UC Cooperative Extension, veterinarians, poultry businesses and bird enthusiasts collaborate to ensure that diverse populations of birds are tested for AI every year with the goal of detecting any incursion of AI as soon as possible. In 2005, over 100,000 birds were tested in California alone. There is presently no evidence of HPAI H5N1 existing in the U.S. - either in animals or humans.

USDA and CDFA veterinarians are specially trained to diagnose foreign animal diseases like AI and regularly conduct field investigations of suspicious disease conditions. This form of surveillance is very effective and relies on close communication with private veterinarians and farm and ranch managers. Animal health officials also conduct screening for HPAI at places where live birds are sold, such as live bird markets, feed stores, pet stores and swap meets.

A national strategy for AI surveillance in wildlife populations has been developed and the California Department of Fish and Game, federal wildlife agencies and universities are collaborating in order to conduct AI surveys in wild populations of birds.

Q. What can poultry producers do to prevent an AI outbreak on their farms?

A. Poultry producers should strengthen biosecurity practices to prevent the introduction of AI into their flocks. The following are some sound biosecurity practices:

- Keep an "all-in, all-out" philosophy of flock management. Avoid skimming flocks-birds left behind are exposed to work crews and equipment that could carry poultry disease viruses. Process each lot of birds separately, and clean and disinfect poultry houses between flocks.
- Protect poultry flocks from coming into contact with wild or migratory birds. Keep poultry away from any source of water that could have been contaminated by wild birds.
- Permit only essential workers and vehicles to enter the farm.
- Provide clean clothing and disinfection facilities for employees.
- Thoroughly clean and disinfect equipment and vehicles (including tires and undercarriage) entering and leaving the farm.
- Do not loan to, or borrow equipment or vehicles from, other farms.
- After visiting other bird farms or other congregated bird flocks, change footwear and clothing before working with your own flock. Otherwise, avoid visiting other bird farms.
- Do not bring birds from slaughter channels back to the farm.

Q. How do I get more information about AI?

Avian Health Group

http://www.cdfa.ca.gov/ahfss/ah/avian_health_program.htm

Hotline to report sick poultry: 1-800-491-1899

CDFA Animal Health Branch District Offices:

Redding	(530) 225-2140
Modesto	(209) 491-9350
Tulare	(559) 685-3500
Ontario	(909) 947-4462

USDA Veterinary Services Area Office: (877) 741-3690

USDA AI Information: <http://www.usda.gov/birdflu>

Food Safety Information

USDA Meat and Poultry Hotline

1-888-MPHotline (1-888-674-6854)